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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/690,485	10/17/2000	Kenneth Fallon	END9109960138US2	2533

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EXAMINER

NORRIS, JEREMY C

ART UNIT PAPER NUMBER

2827

DATE MAILED: 01/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/690,485

Applicant(s)

FALLON ET AL.

Examiner

Jeremy Norris

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 16-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-9, 16-18, 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election of group I, claims 19-, 16-18 and 21-22 in Paper No. 6 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

This application contains claims drawn to an invention nonelected with traverse in Paper No. 6. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim 19 is rejected under 35 U.S.C. 102(e) as being anticipated by Bhatt et al. (US 5,822,856).

Bhatt et al (hereafter Bhatt) discloses, referring to figures 3-5, a printed circuit card comprising a metal layer (wiring layer 306) sandwiched between a pair of dielectric layers (310 & 312), said dielectric layers being formed of a photoimaged cured dielectric material (see the abstract), metalization on each of the first and second layers (wiring layers 506 & 304 respectively) forming circuitry on the first and second layers of the photoimageable material, and metal filled vias (hole 332, only one shown but a plurality referred to) in the first layer of photoimageable material (312) connected to the circuitry and the metal layer, and an opening (hole 328) in the metal layer and in the first and second layers of photoimageable material, the opening being metallized to connect at least a portion of the circuitry on the first layer with a portion of circuitry on the second layer without contacting the metal layer.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bhatt et al.

Bhatt discloses the claimed invention as described above with respect to claim 19 except for the limitation that Bhatt does not specifically state that the holes and vias in the dielectric material be photoformed. It would have been obvious, to one having ordinary skill in the art, at the time of invention, to photoform holes in the polyimide material as that is a well known conventional technique. Moreover, this limitation is a process limitation in a product claim and cannot serve to patentably define the product over the prior art of record. Furthermore, it is well settled that the presence of process limitations in product claims, which product does not otherwise distinguish over the prior art, cannot impart patentability to that product (*In re Johnson*, 157 USPQ 670, 1968).

Response to Arguments

Applicant's arguments filed 9 November 2001 have been fully considered but they are not persuasive. Applicant contends that the rejection was improper because the Bhatt reference stated above did not disclose "each and every limitation of the claimed invention". Specifically, Applicant contends that within the Bhatt reference "the layers 310 and 312 are not photoimageable materials of cured dielectric material" and furthermore that "there is nothing in the specification that would teach or suggest that

the layers 310 and 312 would be photoimageable dielectric". Examiner agrees that, in the passages cited by Applicant, the Bhatt reference specifically teaches an embodiment where the layers are not of photoimageable material. However, Examiner also notes that Bhatt discloses several alternate embodiments:

In step 100 of FIG. 1(a) a circuit board substrate is formed. The substrate may be a ceramic substrate (e.g. alumina, or beryllia); or a metal substrate (e.g. Cu, Al, Invar, Covar, or Cu-Invar-Cu) covered with dielectric material (e.g. polyimide, or epoxy); or an organic substrate (e.g. epoxy) preferably filled with axially stiff fibers (fiberglass or polyaramide fibers) or a flexible substrate of dielectric polymer films (e.g. polyimide) and metal foils (e.g. copper). For example in FIG. 3 circuit board substrate 302 includes two buried metal wiring layers 304, 306 (power and ground planes) and three dielectric layers 308, 310, 312. The dielectric layers may be ceramic or organic material. (Bhatt col.4, lines 55-68)

The embodiment of particular interest is the one in which the board is comprised of "a flexible substrate of dielectric polymer films (e.g. polyimide)". Polyimide is well known in the art to be a photoimageable material. Therefore, it is clear to the Examiner that Bhatt does indeed disclose photoimageable layers. Regarding Applicant's argument that the holes being "photoformed" is not a process limitation but rather a characteristic of the holes themselves, they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy Norris whose telephone number is 703-306-5737. The examiner can normally be reached on Mon.-Th., 9AM - 6:30 PM and alt. Fri. 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Talbott can be reached on 703-305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7724 for regular communications and 703-305-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JCSN
January 27, 2002


Kleene
Primary Examiner